gions by the use of minimum tillage cropping practices designed to reduce soil erosion. Weeds left after minimum tillage are killed by herbicides rather than by plowing as in a conventional tillage system. Minimum tillage results in reduced erosion and surface runoff, which can lead to increased leaching. A possible result would be increased amounts of soluble pesticides reaching ground water. The impact of minimum tillage on pesticide leaching is a good research topic; conclusive data on this subject are not currently available. Minimum tillage is an example of a production technique that reduces one type of pollution (sediment) but may increase another type of pollution (pesticide residues reaching ground water). There are other erosion control techniques, such as contour plowing, that do not cause increased pesticide use. The costs and benefits of alternative erosion control methods vary with crop, slope, soil type, and other factors (Hinkle, 1985).

Other Nonpoint Sources

In addition to pesticides, nonpoint sources of ground water contamination include nitrates (from agriculture, lawn care, or septic tanks), other components of septic tank seepage, improper hazardous waste disposal by homeowners and small firms, mining wastes, road salts and oils, urban surface runoff pollutants, and seepage of polluted surface water. Nitrate contamination of ground water from septic tank seepage, fertilizer applications, and animal feed lots has been well documented.

A more recent problem has been aquifer contamination with organic solvents such as trichloroethylene. Although some nonpoint source contamination from trichloroethylene is caused by improper waste disposal by diffuse small businesses (like dry cleaners), it may also be caused by the use of septic tank cleaners. Septic tank cleaners containing trichloroethylene have been banned in Long Island and Connecticut.

Besides banning materials from use, the primary techniques available to reduce nonpoint source pollution from nitrates, solvents, and industrial chemicals include land use control, substitution of alternate chemical formulations, legislation to control land application of materials, collection of small amounts of diffusely distributed wastes, and public education about proper disposal procedures. A data base describing the distribution of the storage, use, and disposal techniques for small businesses like dry cleaners would also be helpful. Unlike agricultural pesticides, the land application of fertilizers, road salts, and other potential ground water contaminants is not regulated by law. Public education efforts aimed at informing individuals and small businesses of the dangers associated with improper hazardous and other waste disposal as well as informing them of the correct procedures for disposal can be effective in reducing local ground water contamination.

It has been estimated that approximately 30 percent of the population of